

• COLORADO RIVER •  
**AQUEDUCT NEWS**

THE METROPOLITAN WATER DISTRICT

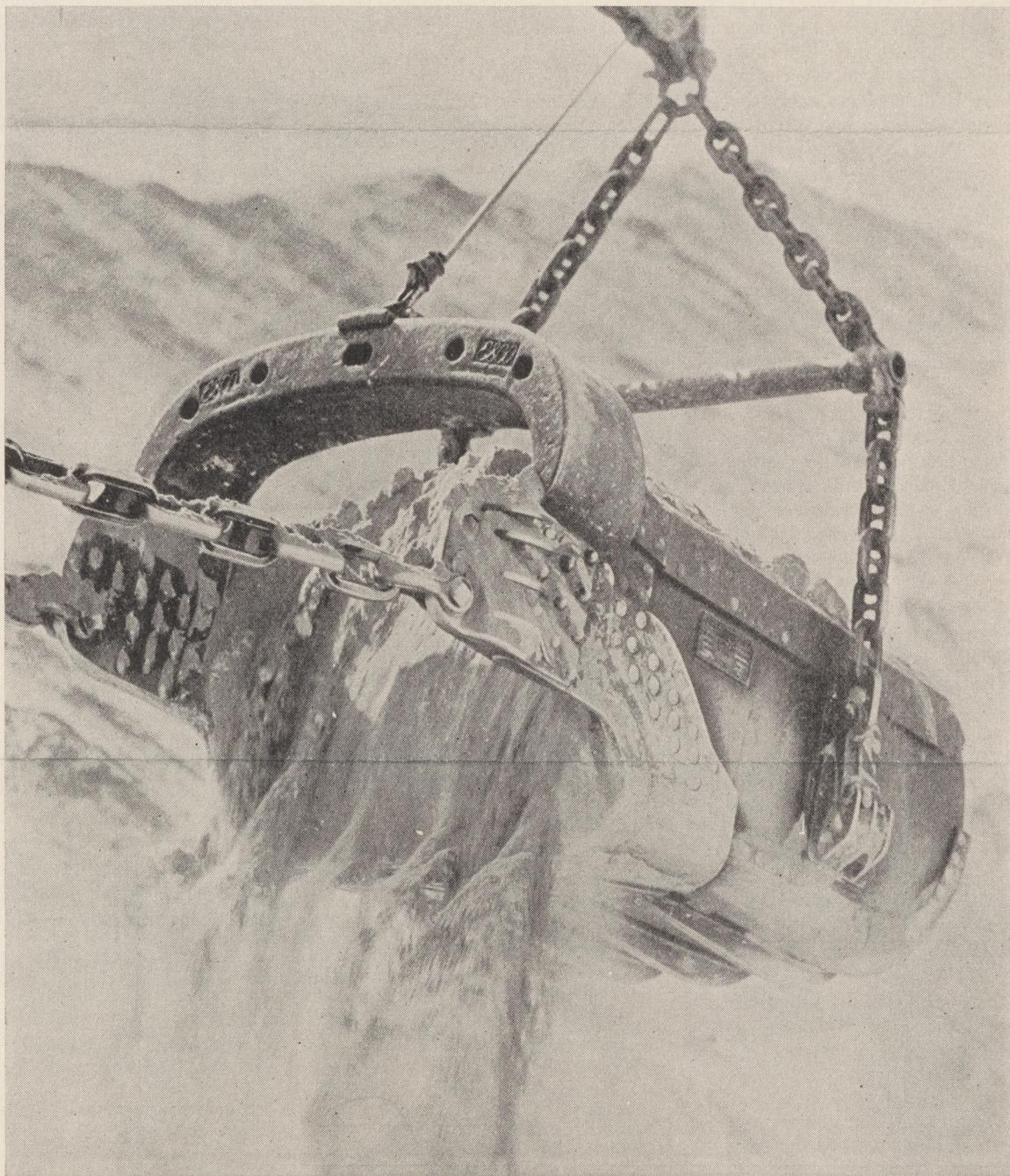


OF SOUTHERN CALIFORNIA

Vol. II

FEBRUARY 20, 1935

No. 4



**SYMBOL OF PROGRESS**

The four and one-half yard bucket of a Barrett-Hilp-Macco dragline shovel at work on excavation for Colorado River Aqueduct canal construction.

COLORADO RIVER  
**AQUEDUCT NEWS**  
 THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

LOS ANGELES, CALIFORNIA

Published twice monthly in the interest of Field and Office Workers on the Colorado River Aqueduct, and for the information of all other citizens of the Metropolitan Water District.

Vol. II February 20, 1935 No. 4

**A GIANT CONQUERED**

All the world, and especially those persons connected with the aqueduct project, thrilled at the dramatic closing of the gates at Boulder Dam early this month. Surely, the long and eventful history of the West contains no more important event than that one. The turbulent Colorado, for centuries a menace to Man and his works, has at last been tamed. Only a few more steps remain now until the giant is put to work. With the completion of the aqueduct, power plants, and transmission lines, Old Man Colorado will be doing Man's bidding, building a greater Southwest.

**THE CONTEST**

The NEWS has been making every possible effort to discover the construction worker who is entitled to recognition as the holder of the record for uninterrupted service on the aqueduct project.

The cooperation of all camp superintendents and division engineers on the aqueduct line has been solicited, so that no one eligible for the competition will be overlooked.

As was pointed out in the last issue of the NEWS, the prizes for the longest period of service in construction work (without interruption for any reason whatsoever) will be an inscribed certificate, suitable for framing, presented with the compliments of Chairman Whitsett and General Manager Weymouth; and a bound copy of Vol. 1 of the AQUEDUCT NEWS with the compliments of the NEWS.

So that there will be no misunderstanding when a winner is chosen, it should be emphasized again that the contest is open to all employees of aqueduct contractors and the Metropolitan Water District who are engaged in actual construction work. Excluded from the competition are superintendents, office and engineering workers, and other persons connected with the Los Angeles, Banning, and Divisional headquarters staffs.

# GENERAL MANAGER REVIEWS ACTIVITIES OF MONTH ON AQUEDUCT

(EDITOR'S NOTE: The following is made up of highlights of some of the District activities during the month of January. It is taken from the report of Assistant Chief Engineer Julian Hinds.)

**Legal Division**

Legal work in connection with aqueduct construction and Metropolitan Water District activities was continued during the month.

**Miscellaneous Activities Division**

Up to the end of January, 1935, a total of 8,362 certificates of registration had been issued by the Labor Employment office to applicants.

**Field Engineer and Construction**

*Engineering*—Survey parties on Divisions 1, 2, 3, 5 and 6 carried forward work in connection with canal, siphon, and conduit construction being launched.

*Safety Engineering*—The December 1934, accident frequencies of 122, 151, and 70, respectively, for the aqueduct, contractors, and Coachellas, compare favorably with the frequency of 151 for California tunnel construction during the five policy years, 1925-29.

*Testing Laboratory*—During January approximately 120,000 barrels of cement from Colton, Riverside, Victorville, and Monolith mills were sampled and tested. Shipments from the mills at Victorville and Monolith have been started for the work at the eastern end of the aqueduct line.

*Operation of Utilities*—During January a total of 5,481,841 hours of power was used, about 13,707 (long distance) telephone calls were handled, and 1,614,685 cubic feet of water was delivered.

*Parker Dam—Bureau of Reclamation*—The construction of the government buildings was continued, and sewer laid from the camp.

*Aqueduct Construction*—(See table on Page 6 for current progress figures.)

**Civil Engineering Division**

*Specifications*—Bids under five specifications were opened during the month, and seven new specifications were issued. Eight contracts were prepared, checked, and executed.

*Design*—Plans were prepared for increasing the strength of the concrete lining for Cottonwood tunnel; a preliminary layout for storage at the Eagle Mountain pump lift was prepared.

*Distribution*—Approach cut excavation was started at the west portal of Monrovia Tunnel No. 1, January 29, 1935. Clearing for camp site at the west portal of Monrovia Tunnel No. 3 was set under way at the end of the month.

*Hydrography*—Chief attention continued to be required on groundwater problems at the San Jacinto and Valverde tunnels.

*Statistics*—Close attention was given to the ordering and routing of reinforcement steel. Sufficient steel and other materials furnished by the District have been delivered to amply satisfy the requirements of the various contractors.

**Electrical Engineering Division**

Studies were begun on the main aqueduct pumping plant foundations and substructures, and additional architectural studies of buildings were made. Eleven new substations serving the construction on the canal and conduit sections of the aqueduct were put into operation during the month, and three more portable substations are being assembled. Arrangements were made for the installation of telephone spur lines to five contractors' camps and to two concrete mixing plants on Division 4. Design of the manual type telephone equipment of Boulder power plant was carried along in conjunction with engineers of the Edison Company and the Bureau of Power and Light.

**Personnel Division**

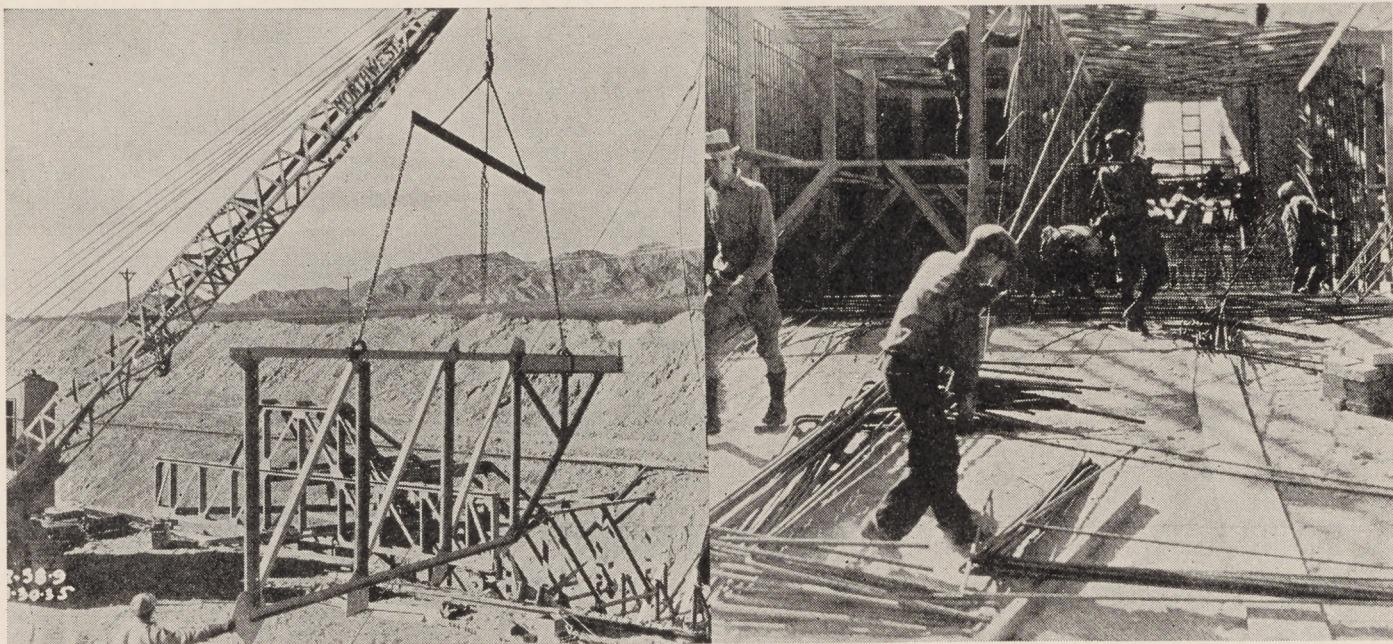
The net labor turnover for all divisions for December was 4.28 per cent, the lowest turnover to date.

**Purchasing Division**

Purchase orders issued during the month of January amounted to approximately \$209,725, representing an issuance of 1,079 orders.

**Accounting and Costkeeping**

Actual costs to January 31, 1935, amounted to \$33,566,605.51, covering portions of the works and activities, the total cost of which is estimated at \$110,299,543.



Open work construction shots. Upper left—Assembling canal trimmer on a Wood & Bevanda schedule. Upper right—W. & B. crew placing reinforcement steel for box siphon. Below—pouring concrete on the siphon section.

## Ship Steel, Cement For Open Work Schedules

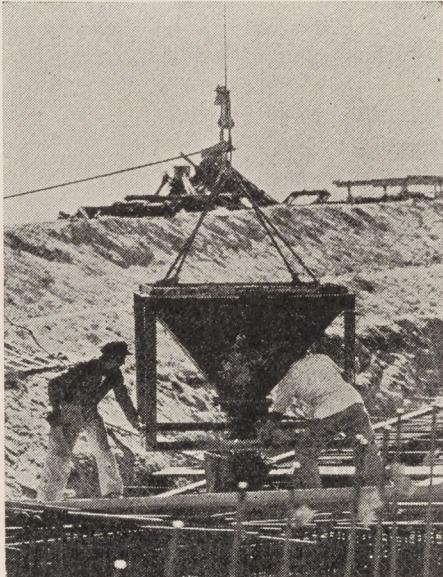
Scores of trucks, carrying reinforcing steel and cement, last week were moving out across the Colorado River desert country with the first major shipments of materials which are to go into the building of 147 miles of conduits, canals, and siphons on the Colorado River Aqueduct project.

Although large quantities of steel and cement already have been used on tunnel operations on the aqueduct, last week's truck caravan marked the fact that another phase of the project's construction is well under way.

Field reports reaching the office of General Manager Weymouth reveal that of the ten construction firms holding contracts for conduit, canal, and siphon construction, all but two have established camps from which to carry forward their operations.

Tons of heavy equipment, including power shovels, "walking" dredges, and concrete mixing equipment, have been moved across the desert to the various sites of construction. Progress figures show that nearly a million cubic yards of earth and rock have been excavated.

The steel being shipped is to be used for reinforcing the concrete which will



form the canals, conduits, and siphons. At some points the pouring of concrete already has been started.

Into this type of construction, District officials pointed out, will go a large portion of the record-breaking 5,000,000-barrel cement order placed recently by the Water District with four Southern California cement companies. The order is said to be the largest ever placed for a single project.

The siphons, canals, and conduits on which work is now going forward will connect the twenty-nine tunnels of the aqueduct's main line. Of ninety-two miles of bore on the project, more than sixty miles has been excavated to date, District records show.

## Finish Excavation of East End of 18-Mile Bore

Colorado River Aqueduct construction passed another milestone when Metropolitan Water District crews completed in record time excavation work on the easterly end of the eighteen-mile East Coachella tunnel, largest bore on the project and one of the outstanding tunnels of the world.

Water District engineering reports reveal that excavation was completed in sixty-seven per cent of the time which was estimated would be required. The completely excavated tunnel section is 10,204 feet, or nearly two miles.

The eastern end of the tunnel was reached by miners working from Yellow Canyon adit, one of four access tunnels from which work is going forward on the giant bore.

Meanwhile, work continues to move ahead as usual in a westerly direction from Yellow Canyon adit. Crews at this point are scheduled to meet crews working east, from the Fargo adit, about the middle of March.

Water District engineers estimate that when this event occurs, approximately the eastern eight miles of the eighteen-mile tunnel will have been excavated. At the present time 1911 feet of rock remains between the crews working east from Fargo adit and the crews working west from Yellow adit. At the rate of progress now being made at the two points, the sections will "hole through" about March 15.

# WORK ON SAN JACINTO BORE MOVES AHEAD WITH DISTRICT IN CONTROL OF OPERATIONS

Satisfactory progress on San Jacinto tunnel was reported following action of the Metropolitan Water District in taking over construction work on the bore on February 12.

C. R. Rankin has been appointed general superintendent in charge of the District's San Jacinto tunnel operations. W. L. Taylor and E. E. McCabe, superintendents of Yellow and Long Canyon camps on the Coachella Division, have been transferred to the Potrero shaft and the West Portal of the San Jacinto job. Jack Stone, formerly of Wenzel & Henoch Construction Company, has been placed in charge of the Cabazon shaft.

A number of the District's tunnel men employed on the Coachella Division were transferred to the San Jacinto job. It was also expected that many of the men formerly with Wenzel & Henoch would be retained.

Assistant General Manager Burkholder has stated that the District will require an extremely high standard of physical fitness from all men employed.

Referring to the situation at San Jacinto tunnel, Chairman W. P. Whitsett of the District board this week said:

"Except for the San Jacinto tunnel, construction work all along the aqueduct front is progressing satisfactorily and is ahead of schedule time. San Jacinto tunnel must be brought in line, and it is the job of the District engineers and tunnel men to see that this is done."

The Wenzel & Henoch contract for the San Jacinto tunnel was suspended by General Manager Weymouth on January 15, but the contractor refused to surrender the work. The District sought to prevent the contractor from interfering with its efforts to take over the job when it petitioned the Federal Courts to enjoin Wenzel & Henoch from such interference. Federal Judge McCormick, on February 6, granted a hearing on this petition and at that time it was expected that several weeks would elapse before the case could be brought to trial.

On Saturday, February 9, Wenzel & Henoch notified the District it had suspended all work on the tunnel. Monday, February 11, upon motion of General Counsel James H. Howard, the court dismissed the case. On Tuesday, February 12, District forces took over the work.

## New Superintendents at Yellow and Long

Two important transfers in executive personnel took place on the Coachella Division last week. Superintendent R. L. Bryant of Little Morongo Camp was moved to Yellow Canyon Camp, and C. E. Sides, foreman at Long Canyon, was promoted to the superintendency of that camp. Superintendent Bryant succeeds W. L. Taylor who has been transferred to the Potrero shaft on the San Jacinto tunnel. Mr. Sides succeeds E. E. McCabe who is now at the west portal of San Jacinto tunnel.

## Noted Visitor

A distinguished visitor along the aqueduct last week was Charles Page Perin, head of the firm of Perin & Marshall, consulting engineers of New York City. Mr. Perin is president of the American Institute of Consulting Engineers and past president of the American Iron and Steel Institute. He reported that his concern is interested in a 54-mile European tunnel project, and he is, therefore, keenly interested in the methods and accomplishments of the aqueduct tunnel builders.

## CABAZON FIRE

Four men lost their lives Monday evening, February 11, when fire of unknown origin destroyed the dormitory and mess hall of Anderson Brothers Boarding and Supply Company at the Cabazon shaft on San Jacinto tunnel. Three of the men whose bodies were recovered after the fire were identified as Oscar Carlson, Gus Gotzieff and William Gordon. Positive identification of the fourth had not been made up to the time of the coroner's inquest on February 14. Peter Kanaske was painfully burned in attempting to extinguish the blaze.

## LAURGAARD TRANSFERRED

Construction Engineer Laurgaard of the Reclamation Bureau has been transferred from the Parker dam job to the Bureau's Denver office. E. A. Moritz has been designated as acting construction engineer.

\* \* \*

Announcement was made this week that N. B. Smith and M. Sigsbee Dunlap, of the Division 4 engineering staff, have been transferred to the Distribution Division in the Los Angeles office.



First Metropolitan Water District crew comes off shift at Potrero shaft, San Jacinto tunnel. Shift Boss Ed Sanders at extreme left.

## Safety On the Aqueduct

By T. W. Osgood,  
Safety Engineer

The graph below indicates the monthly and annual lost-time accident frequencies for tunneling operations on the Colorado River Aqueduct for the year 1934.

An analysis of this graph shows interesting facts as follows:

Year	Frequency		Decrease	
	High Mth.	Low Mth.	Jan. 1934	Dec. 1934
Contractors	291.	391.	151.	151
Aqueduct	232.	295.	122.	288.
M. W. D. Force	120.	205.	41.	205.
California Tunnels—Frequency 151. for five policy years 1925-1929.			70.	66%

The downward trend of the frequency curves, especially during the latter part of the year, is worthy of note.

The frequencies realized during the month of December, Contractors—151; Aqueduct—122; and M. W. D. Force Account Work—70; compare favorably with the frequency of 151. for the five year period of tunnel construction in California.

These results reflect splendid safety work on the part of the construction forces and indicate a marked safety spirit within the entire organization.

Through profiting by the 1934 accident prevention experience, and exercising continued vigilance in protecting aqueduct workers from injury, it is anticipated that the 1935 accident record will show further decreases and reach a minimum for this class of construction.

## Parker Dam Work Under Way

Full speed is the order of the day at Parker Dam with Six Companies, Inc., and its subcontractor, the J. F. Shea Company, rapidly proceeding with the organization of construction crews.

This activity follows receipt of word from the Denver office of the Reclamation Bureau ordering a resumption of work on the structure.

The order from Denver was issued as the result of action by the United States Supreme Court, restraining the State of Arizona from interfering with the building of the dam on Arizona territory. The case has been set for hearing March 4, at which time, it is understood, a final determination will be made by the court.

Work on the dam was temporarily halted a number of weeks ago when Governor Moeur, of Arizona, declared martial law and called out Arizona National Guardsmen to stop construction on Parker Dam.

Pending settlement of the issue in the courts, Secretary of the Interior Harold L. Ickes ordered construction work halted. Secretary Ickes had jurisdiction over the dam because it is a Federal structure, being built by the U. S. Reclamation Bureau and to be paid for by the Metropolitan Water District.

It is understood that work will be started immediately on the completion of the construction bridge from the California to the Arizona side of the river to give access to the site of the diversion tunnels.

## \$13,392,000 Paid To Aqueduct Workers

Direct payroll benefits to Metropolitan Water District citizens amounting to \$13,393,000 have resulted from the first two years of Colorado River Aqueduct construction, it was revealed last week in a report issued from headquarters of the Water District.

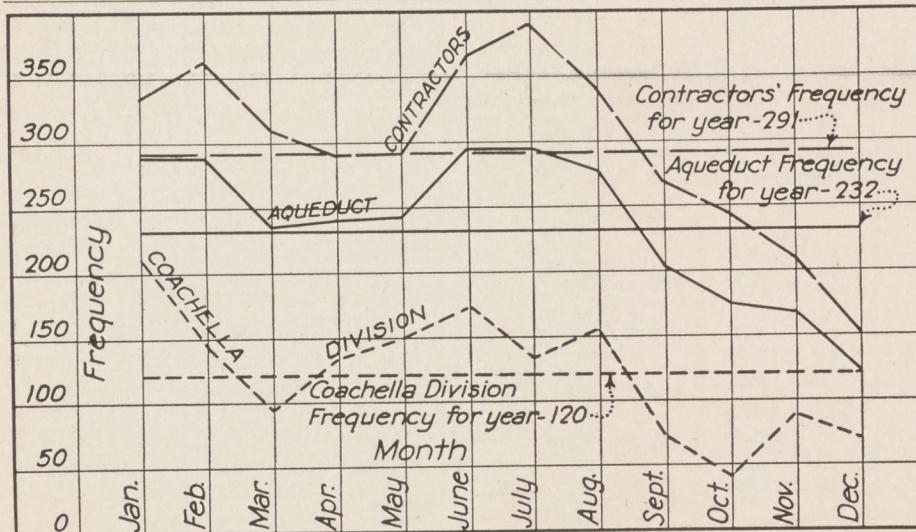
This sum includes \$6,777,658 paid in salaries and wages to persons employed directly by the District, \$5,316,149 paid by aqueduct contractors to their employees, and approximately \$1,200,000 paid to employees of commissary and transportation subcontractors. The report points out that all workers on the project, whether employed by the District directly or by contractors, must be certified residents of one of the thirteen Southern California cities which make up the Metropolitan Water District. Aqueduct employees now number more than 5,000.

The report draws attention to the fact that aqueduct construction also has brought about a huge increase in purchasing power during the past two years through the expenditure of approximately \$20,000,000 for materials, supplies, and construction services, a large portion of which has gone directly to Southern California manufacturing and business establishments.

It is pointed out that studies made by the Federal Public Works Administration of similar Federal projects show that for every man employed directly on construction, two are employed behind the lines producing materials and other commodities to serve construction workers. Most of these men are employed fabricating materials for use in the work, and providing commodities used personally by the workmen and their families.

Application of this rule to Colorado River Aqueduct construction shows that 10,000 men, in addition to the 5,000 directly employed, have been benefited as a result of work on the project.

Water District figures reveal that the estimated cost of the aqueduct, as a whole, is \$209,420,000, and that of this amount \$193,700,000 will be for direct construction costs. It is estimated that \$95,039,000 will be expended directly for Southern California labor and \$77,260,000 for equipment, materials and supplies.



How accident frequencies have been driven consistently downward along the aqueduct throughout the past year. The top line on the above graph represents the contractor's frequency; the middle line, the frequency for the aqueduct as a whole, and the lower line that of District forces on the Coachella Division.

**BEST PROGRESS  
This Period**

 6-day week: Long Canyon East, 901 ft.  
 7-day week: Whipple Mt. East, 847 ft.

**TUNNEL PROGRESS**

 Jan. 16 to Feb. 15, incl.  
 Tunnel Excavated to Date, 61.82 Miles

**BEST WEEK'S PROGRESS  
This Year**

 6-day week: Seven Palms West, 225 ft.  
 7-day week: Whipple Mt. East, 240 ft.

TUNNELS ON CONTRACT	Length in feet	Number of Shifts	EXCAVATION PROGRESS IN FEET			TUNNELS ON CONTRACT	Length in feet	Number of Shifts	EXCAVATION PROGRESS IN FEET		
			Average Per Shift	This Period	Total to date				Average Per Shift	This Period	Total to date
Walsh Constr. Co.						J. F. Shea Co.					
COLORADO RIVER	(5482)			0	5482	COTTONWOOD	(20,105)				
West Portal	5482					East Portal	10,118			0	10,118
COPPER BASIN, No. 1	(705)			0	705	West Portal	9987			0	9987
West Portal	705										
COPPER BASIN, No. 2	(11,568)			0	1878	Morrison-Knudsen					
East from adit	1878			0	330	MECCA PASS	(5,940)				
Adit	330			0	9690	No. 1, West Portal	338				
West from adit	9690			0		No. 2, West Portal	997				
WHIPPLE MT.	(32,265)			0		No. 3, East Portal	4605				
East from adit	18,352	93	9.1	847	9817	All Work Completed on					
Adit	924			0	924	Feb. 10, 1935					
West from adit	13,913	93	8.7	805	8148						
Winston Bros.						Concrete Progress to Date					
IRON MT.	(39,759)					Arch - 8172 ft.					
East from shaft	9844	81	6.3	507	4739	Invert - 5971 ft.					
Shaft	165			0	165						
West from shaft	13,743	81	8.7	707	9045						
Utah Constr. Co.											
IRON MT.	16,172	93	7.7	715	11,848	SAN JACINTO	(67,415)				
West Portal						East from Cabazon	8553	83	0.8	70	1821
						Cabazon shaft	246			0	246
						Cross drift	935			0	935
						West from Cabazon	22,839	83	0	0	4874
Winston Bros.						East from Potrero	20,589	82	0	0	160
COXCOMB	(17,795)	81	9.0	731	10,311	Potrero shaft	796			0	796
East Portal	17,795					West from Potrero	6712	82	5.8	478	1191
						West Portal	8722	82	4.8	391	4711
Broderick & Gordon											
EAST EAGLE MT.	(9,442)	81	7.0	565	3572	Hamilton & Gleason	(6220)				
West Portal	9442					BERNASCONI	6220	56	3.0	168	6084
WEST EAGLE MT.	(26,494)	81	8.9	717	5821						
East from adit	7871			0	2008	Dravo Contr. Co.					
Adit	2008			588	5188	VALVERDE	(38,765)				
West from adit	7974	81	7.3			East from Shaft 1	2140				
Dixon & Bent						Shaft 1	64				
WEST EAGLE MT.	10,649	81	6.5	527	8694	West from Shaft 1	1525				
West Portal											
Hunkin & Conkey						East from Shaft 2	5400				
HAYFIELD, No. 1	(9713)	81	5.6	452	4975	Shaft 2	204				
East from adit	5317			0	511	West from Shaft 2	5400	88	5.0	440	6932
Adit	511			94	4396						
West from adit	4396	14	6.7			East from Shaft 3	6950	87	3.1	272	3900
Shofner & Gordon						Shaft 3	192			0	192
HAYFIELD, No. 2	(5435)	41	8.3	339	5435	West from Shaft 3	6950	87	4.0	345	6107
West Portal	5435					East from Adit	5117	87	3.3	283	766
						Adit	391			0	391
						West from Adit	5283	87	2.4	210	593
						Total Excav. Contract Tunnels exclusive of Adits and Shafts (In Miles)	307,335	1886	5.4	10,251	192,225
							58.21			1.94	36.41

**TUNNELS ON FORCE ACCOUNT**

EAST COACHELLA TUNNEL	Sched.	(96,610)	33	8.4	0	686	10,204	10,977	WIDE CANYON			
									Sched.	No. 1, E. Portal	No. 1, W. Portal	No. 2 Tunnel
Yellow Canyon Adit	1	686	81	8.5	278	686	10,204	10,977	5	5122	81	8.8
East from adit	1	10,204			685				6	9183		714
West from adit	1	10,076							848		427	5064
Fargo Canyon Adit	2	891	81	8.7	0	891			6		0	8237
East from adit	2	11,850			708	9691			7			848
West from adit	2	15,200	81	9.9	799	8153						
Berdoe Canyon Adit	3	2042	81	7.7	0	2042			7			
East from adit	3	15,824			622	10,552			8			
West from adit	3	12,456	81	8.9	720	11,111						
Pushawalla Canyon Adit	4	2935	81	8.9	0	2935			8			
East from adit	4	10,186			718	8808			8			
West from adit	4	10,814	81	5.8	473	8432						
WEST COACHELLA TUNNELS		(81,454)										
THOUSAND PALMS												
No. 1, West Portal	5	16,058	81	5.8	468	8924			1148	8.4	9616	134,152
No. 2, Tunnel	5	3838		0	0	3838					1.82	25.41
									91.93	6.5 ft.	3.76	61.82

Heading excavation is counted as two-thirds of full tunnel excavation. Adits and Shafts progress is not included in total footage.

# NEWS FROM FIELD AND OFFICE



These four gentlemen spend most of their time in the trenches. No, they are not soldiers in the Bolivian army on the Gran Chaco front. The trenches they occupy are those which are being excavated in aqueduct canal, siphon, and conduit construction. From left to right they are: Clyde Wood, of Wood and Bevanda; A. F. Weesner, general superintendent for Wood and Bevanda; Jesse S. Smith, general superintendent for Barrett, Hilp and Macco Corporation, and H. W. McKinley, superintendent of excavation for the same company.

Chester Hanson and Charles Owens of the Los Angeles Times were visitors on the aqueduct line last week. A layout of Owens sketches of construction operations is scheduled to be printed in the Times in the near future.

\* \* \*

Sincere condolences are being extended to some dozen members of the Division 6 headquarters staff, following the recent fire which destroyed the headquarters building. The blaze, which originated in the oil furnace that heated the building, consumed all the personal effects of the men who had quarters there. Junior Engineers William O. Arnold and Tom Cain, who happened to be present when the fire was discovered, made valiant but unavailing attempts to control it. A temporary office has been established in Perris.

\* \* \*

That bluish, chocolate tinted hue, that resembles a cross between a bankers' convention, and a stenographer's dream of heaven, has once more permeated the air of the eighth floor of the Los Angeles office. This latest occasion was in celebration of the arrival of Miss Ann Ingram who was born on Feb. 5. Miss Ingram and her mother are doing fine, and it is believed that, barring unexpected complications, her father, Fred Ingram of the Distribution Division, is going to pull through. Due to the fact that Fred doesn't smoke, and was thus unable to defend himself, his recovery was retarded by the clouds of cigar smoke that were blown his way during the early stages of his convalescence.

\* \* \*

**Flying during the month of February for the best camp records for safety, progress, and economy on the Coachella Division for January were:**

**Safety Flag.....Long Canyon  
Economy Flag....Long Canyon  
Progress Flag....Long Canyon**

**It is understood that it was necessary to put an extension on the Long Canyon flagpole to take care of the congestion.**

<b>AQUEDUCT TEMPERATURES</b>		
<b>Feb. 1 to Feb. 15 Inclusive</b>		
	<b>Max.</b>	<b>Min.</b>
Div. 1 .....	80°	43°
Div. 2 .....	78°	43°
Div. 3 .....	80°	41°
Div. 4 .....	80°	46°
Dives. 5 & 6.....	78°	31°

Harry Matthews, genial office manager of Division 4, has a brand new radio on which he gets Russia, China, Latvia, Abyssinia, Zululand, Patagonia, and Stratford-on-Avon. Ask him and he will tell you all about it, or (on the advice of other denizens of Division 4 Headquarters) perhaps it would be better not to ask him.

A party of thirteen officials of the city of Burbank, accompanied by Director Norwood, inspected various phases of aqueduct construction.

\* \* \*

A fire of unknown origin destroyed the Berdoo camp garage at 9 p. m., February 8, according to reports from the field. Two trucks were consumed in the blaze.

\* \* \*

Bids will be received at District headquarters on February 28 for transmitting reinforcement steel and miscellaneous iron and steel to the site of aqueduct work from railway stations in the vicinity.

\* \* \*

With the end of the bowling season nearly at hand, the Los Angeles office teams stood as follows last week: Morongos, 28 games won, 24 lost; Parker Dams, 28 games won, 24 lost; Cajalcos, 26 games won, 26 lost; Pushawallas, 26 games won, 26 lost; Berdoos, 25 games won, 27 lost; Hayfields, 24 games won, 28 lost.

\* \* \*

Harry E. Shudde, for two years interviewer in the Labor Employment office of the District and, therefore, known to thousands of aqueduct workers, has resigned his post to join the Thompson-Starrett Company forces on aqueduct open work construction. Before coming to the District Labor office, Mr. Shudde spent many years in construction work. H. P. McAfee, of Pasadena, also an experienced construction man, has succeeded Mr. Shudde.



W. E. Whittier Makes a Pinch. (See Next Column).

## DIRECTORY

### BOARD OF DIRECTORS

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Franklin Thomas, Vice-Chairman  
S. H. Finley, Secretary

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Beverly Hills.....George R. Barker  
Burbank.....J. L. Norwood  
Compton.....William H. Foster  
Fullerton.....Walter Humphreys  
Glendale.....Bernard Brennan  
Long Beach.....William M. Cook  
Los Angeles.....I. Eisner  
Los Angeles.....Perry H. Greer  
Los Angeles.....Otto J. Emme  
Los Angeles.....D. W. Pontius  
Los Angeles.....John R. Richards  
Los Angeles.....Victor H. Rossetti  
Los Angeles.....W. P. Whitsett  
Pasadena.....Franklin Thomas  
San Marino.....J. H. Ramboz  
Santa Ana.....S. H. Finley  
Santa Monica.....W. H. Carter  
Torrance.....Charles T. Rippy  
Charles H. Toll, Treasurer  
D. W. Pontius, Controller

### GENERAL STAFF

General Manager and Chief Engineer.....F. E. Weymouth  
Asst. General Manager.....J. L. Burkholder  
Asst. Chief Engineer.....Julian Hinds  
General Counsel.....James H. Howard  
Asst. General Counsel.....Arthur A. Weber  
Asst. Controller.....J. M. Luney  
General Superintendent.....James Munn  
Chief Elec. Engineer.....J. M. Gaylord  
Asst. to Gen. Mgr.....Don J. Kinsey  
Secy. to Gen. Mgr.....Elisabeth von Hagen

### DIVISION ENGINEERS

Division 1.....R. C. Booth  
Division 2.....W. E. Whittier  
Division 3.....John Stearns  
Division 4.....B. C. Leadbetter  
Divisions 5 and 6.....J. B. Bond  
Distribution.....R. B. Diemer

### SUPERINTENDENTS (Tunnel)

Colorado River, Copper Basin and Whipple Mt. Tunnels, Walsh Construction Co., F. T. Huntington, Gen. Supt.; W. A. Huntington and Jack Lamey, Tunnel Supts.

Coxcomb Tunnel and Iron Mt. shaft, Winston Bros., E. A. Bernard, Gen. Supt.; F. T. Hillman and R. B. Johnson, Tunnel Supts.

Iron Mt. Tunnel, West Portal, Utah Constr. Co., Ben Arp, Gen. Supt.

East Eagle Mt. Tunnel and West Eagle Mt. Tunnel, east portion, Broderick & Gordon. C. J. Kavanagh, Gen. Supt.

West Eagle Mt. Tunnel, west portion, L. E. Dixon and Bent Bros. P. C. Guinn, Gen. Supt.

Hayfield Tunnel No. 1, Hunkin & Conkey Constr. Co., G. B. Hoag, Gen. Supt.; F. Backlund, Tunnel Supt.

Hayfield Tunnel No. 2, Shofner & Gordon, H. E. Warden, Gen. Supt.

Cottonwood Tunnel, J. F. Shea Co., Inc.,

Gilbert Shea, Gen. Mgr.; Wallace Young, Master Mechanic.

Mecca Pass Tunnels, Morrison-Knudsen, George Fortier, Gen. Supt.  
Coachella Division, R. M. Merriman, Division Supt.

Yellow Canyon Adit, E. Coachella Tunnel—  
District Force Account.....E. E. McCabe

Fargo Adit, East Coachella Tunnel—  
District Force Account.....J. H. Manwaring

Berdoo Adit, East Coachella Tunnel—  
District Force Account.....F. A. Weller

Pushawalla Adit, East Coachella Tunnel—  
District Force Account, Kenneth MacIsaac

Thousand Palms—  
District Force Account.....D. L. Reaburn

Wide Canyon—  
District Force Account.....John Jackman

Long Canyon—  
District Force Account.....C. E. Sides

Little Morongo—  
District Force Account.....

Whitemate Tunnels, West Constr. Co., H. E. Carleton, Gen. Supt.; Angus Mac-

Donnell, Tunnel Supt.

San Jacinto Tunnel, District Force Ac-

count, C. R. Rankin, Gen. Supt.; E. E.

McCabe, W. L. Taylor, and Jack Stone,

Tunnel Supts.

Bernasconi Tunnel, Hamilton & Gleason Co., H. J. King, Gen. Supt.

Valverde Tunnel, Dravo Contr. Co., R.

W. Remp, Gen. Supt.; H. C. Richardson,

Asst. Gen. Supt.; Dean Luther, J. R.

Glaeser, Jack Stone, and Fred Youmans,

Tunnel Supts.

### SUPERINTENDENTS (Canal, Siphon, Conduit)

Schedules Nos. 5 and 5A, Jahn & Bressi Construction Company, Joseph Muscolo, Gen. Supt.; Dominick Bressi, Asst. Gen. Supt.; C. M. Ellison, Concrete Supt.

Schedules Nos. 7 and 7A, Barrett & Hilp & Macco Corporation, Jesse S. Smith, Gen. Supt.; H. W. McKinley, Excav. Supt.; Robt. McCune, Concrete Supt.

Schedules Nos. 6, 8, 8A and 8B, Clyde W. Wood and M. J. Bevanda, A. F. Weesner, Gen. Supt.; L. L. Green, Excav. Supt.; A. V. Fisher and V. S. Price, concrete Supts.

Schedules Nos. 9, 9A, 9B, and 9C, The Utah Construction Company, Ben Arp, Gen. Supt.; E. C. Caldwell, Excav. Supt.

Schedules Nos. 10, 10A and 10B, Aqueduct Construction Company, C. M. Elliott, Gen. Supt.; Charles Harlowe, Jr., Excav. Supt.

Schedules Nos. 12 and 12A, Three Com-

panies, Inc., Charles G. Clapp, Supt.

Schedules Nos. 14, 15 and 16, Thompson-Starrett Co., Inc., William Hayes, Gen. Supt.; Thomas McIlvenna and Joseph Rice, Field Supts.; Rodney Smith, resident en-

gineer.

Schedule No. 20, J. F. Shea Co., Inc., H.

F. Remmerbohm, Supt.

Schedules Nos. 21 and 23, The Griffith Company, Harry Davis, Supt.

## Hawkshaw Whittier Solves Desert Mystery

"Elementary, my dear Watson, elementary!"

Such is the favorite saying, these days, of Division Engineer W. E. Whittier of the Metropolitan Water District, who with pure powers of deduction solved the latest mystery to stalk across the bleak desert country out by the rolling Rio Colorado.

Not only has Mr. Whittier, who is Division Engineer on Division No. 2 of the Aqueduct project, solved the baffling puzzle of the missing surveyors' stakes, but he has the culprit in custody.

It all started when Whittier's surveying crews, with a profusion of energy and perspiration, placed their traditional little stakes up hill and down dale, along the line of the new siphon, conduit, and canal construction which is being launched by the aqueduct builders. Next day they returned to the scene of their labors to find the stakes utterly and completely vanished—gone the way of the ghost towns and phantom covered wagons on trains which abound in Desert lore.

"Cherchez la pup!" was Detective Whittier's orders to his men—and sure enough, the guilty party proved to be none other than Jerry, wire-haired mascot of crews of the Barrett, Hilp & Macco Construction Company, engaged on siphon construction.

Jerry, it seems, enjoyed the exercise of following the rod and transit crews, and making a neat job of pulling up their carefully placed stakes and burying them beneath the desert soil as if they were succulent bones to be saved against a rainy day.

Tempering justice with mercy, Officer Whittier has paroled Jerry to his master, L. S. Gosliner, a member of the contractor's forces. So Jerry is both literally and figuratively in the dog house now—and is going to stay there until the surveyors get out of range.

### NOTICE

For the benefit of readers who have saved their copies of the NEWS during the past year, arrangements have been made for the printing of an index for Volume 1. The index page size is the same as that of the NEWS, and may be bound with the year's back issues of the aqueduct publication. Copies of the index may be obtained by writing to the AQUEDUCT NEWS, 306 W. Third street, Los Angeles.